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From Liebig's Organic Chemistry.

ON THE ORIGIN AND ACTION OF HUMUS.

All plants and vegetable structures undergo two processes of decomposition after death. One of these is named *fermentation*, the other *decay, putrefaction*, or *eremacausis.**

(Eremacausis is the art of gradual combination of the combustible elements of a body with the oxygen of the air; a slow combustion or oxidation.—The conversion of wood into humus, the formation of acetic acid out of alcohol, nitrification, and numerous other processes, are of this nature. Vegetable juices of every kind, parts of animal and vegetable substances, moist sawdust, blood, &c., cannot be exposed to the air, without suffering immediately a progressive change of color and properties, during which oxygen is absorbed. The property of suffering this change is possessed in the highest degree by substances which contain nitrogen.)

Decay is a slow process of combustion, a process, therefore, in which the combustible parts of a plant unite with the oxygen of the atmosphere.

The decay of woody fibre (the principal constituent of all plants,) is accompanied by a phenomenon of a peculiar kind. This substance, in contact with air or oxygen gas, converts the latter into an equal volume of carbonic acid, and its decay ceases upon the disappearance of the oxygen. If the carbonic acid is removed, and oxygen replaced, its decay recommences, that is, it again converts oxygen into carbonic acid. Woody fibre consists of carbon and the elements of water; and if we judge only from the products formed during its decomposition, and from those formed by pure charcoal, burned at a high temperature, we might conclude that the causes were the same in both: the decay of woody fibre proceeds, therefore, as if no hydrogen or oxygen entered into its composition.

A very long time is required for the completion of this process of combustion, and the presence of water is necessary for its maintenance: alkalies promote it, but acids retard it; all antiseptic substances, such as sulphurous acid, the mercurial salts, empyreumatic oils, &c., cause its complete cessation.

Woody fibre, in a state of decay, is the substance called *humus*.

The conversion of woody fibre into the substances termed humus and mould is, on account of its influence on vegetation, one of the most remarkable processes of decomposition which occur in nature.

Decay is not less important in another point of view; for, by means of its influence on dead vegetable matter, the oxygen which plants retained during life, is again restored to the atmosphere.

The decomposition of woody fibre is effected in three forms, the results of which are different, so that it is necessary to consider each separately.

The first takes place when it is in the moist condition, and subject to free, uninterrupted access of air; the second occurs when air is excluded; and the third when the wood is covered with water, and in contact with putrefying organic matter.

It is known that woody fibre may be kept under water or in dry air, for thousands of years without suffering any appreciable change; but that when brought into contact with air in the moist condition, it converts the oxygen surrounding it into the same volume of carbonic acid, and is itself gradually changed into a yellowish brown, or black matter, of a loose texture.

According to the experiments of De Saussure, 240 parts of dry sawdust of oak wood convert 10 cubic inches of oxygen into the same quantity of carbonic acid, which contains 3 parts, by weight, of carbon; while the weight of the sawdust is diminished by 15 parts. Hence 12 parts by weight, of water, are at the same time separated from the elements of the wood.

It has already been mentioned, that pure woody fibre contains carbon and the elements of water. Humus, however, is not produced by the decay of pure woody fibre, but by that of wood which contains foreign soluble and insoluble organic substances, besides its essential constituent.

Humus acts in the same manner in a soil permeable to air as in the air itself: it is a continued source of carbonic acid, which it emits very slowly. An atmosphere of carbonic acid, formed at the expense of the oxygen of the air, surrounds every particle of decaying humus. The cultivation of land, by tilling and loosening the soil, causes a free and unobstructed access of air. An atmosphere of carbonic acid is, therefore, contained in every fertile soil, and is the first and most important food for the young plants which grow in it.

In spring, when those organs of plants are absent, which nature has appointed for the assumption of nourishment from the atmosphere, the component substance of the seeds is exclusively employed in the formation of the roots. Each new radicle fibril which a plant acquires, may be regarded as constituting at the same time a mouth, a lung, and a stomach. The roots perform the functions of the leaves from the first moment of their formation; they extract from the soil their proper nutriment, namely, the carbonic acid generated by the humus.

By loosening the soil which surrounds young plants, we favor the access of air, and the formation of carbonic acid; and on the other hand the quantity of their food is diminished by every difficulty which opposes the renewal of air. A plant itself effects this change of air at a certain period of its growth. The carbonic acid, which protects the undecayed humus from further change, is absorbed and taken away by the fine fibres of the roots, and by the roots themselves; this is replaced by atmospheric air, by which process the decay is renewed, and a fresh portion of carbonic acid formed. A plant at this time receives its food both by the roots and by the organs above ground, and advances rapidly to maturity.

When a plant is quite matured, and when the organs by which it obtains food from the atmosphere, are formed, the carbonic acid of the soil is no further required.

Deficiency of moisture in the soil, or its complete dryness, does not now check the growth of a plant, provided it receives from the dew and the atmosphere as much as is requisite for the process of assimilation. During the heat of summer it derives its carbon exclusively from the atmosphere.

We do not know what height and strength nature has allotted to plants; we are acquainted only with the size which they usually attain. Oaks are shown both in London and Amsterdam, as remarkable curiosities, which have been reared by Chinese gardeners, and are only one foot and a half in height, although their trunks, barks, leaves, branches, and whole habitus, evince a venerable age. The small turnip, grown at Teltow,* when placed in a soil which yields as much nourishment as it can take up, increases to several pounds in weight.

The size of a plant is proportional to the surface of the organs which are destined to convey food to it. A plant gains another mouth and stomach with every new fibre of root and every new leaf.

The power which roots possess of taking up nourishment, does not cease as long as nutriment is present. When the food of a plant is in greater quantity than its organs require for their own perfect development, the superfluous nutriment is not returned to the soil, but is employed in the formation of new organs. At the side of a cell already formed, another cell arises; at the side of a twig and leaf, a new twig and leaf are developed. These new parts could not have been formed had there not been an excess of nourishment. The sugar and mucilage produced in the seeds, form the nutriment of the young plants, and disappear during the development of the buds, green sprouts, and leaves.

The power of absorbing nutriment from the atmosphere, with which the leaves of plants are endowed, being proportionate to the extent of their surface, every increase in the size and number of these parts is necessarily attended with an increase of nutritive power, and a consequent further development of new leaves and branches. Leaves, twigs, and branches, when completely matured, as they do not become larger, do not need food for their support. For their existence as organs, they require only the means necessary for the performance of the special functions to which they are destined by nature; they do not exist on their own account.

We know that the functions of the leaves and other parts of plants are to absorb carbonic acid, and with the aid of light and moisture, to appropriate its carbon. These processes are continually in operation; they commence with the first forma-

*The word *eremacausis* was proposed by the author some time since, in order to explain the true nature of putrefaction: it is compounded from two Greek words signifying *slow combustion*.—*Tr.*

*Teltow is a village near Berlin, where small turnips are cultivated in a sandy soil: they are much esteemed, and weigh rarely above one ounce.

PAGINATION INCORRECT

tion of the leaves, and do not cease with their perfect development. But the new products arising from this continued assimilation, are no longer employed by the perfect leaves in their own increase: they serve for the formation of woody fibre, and are the solid matters of similar composition. The leaves now produce sugar, amylin or starch, and acids, which were previously formed by the roots when they were necessary for the development of the stem, buds, leaves and branches of the plant.

The organs of assimilation, at this period of their life, receive more nourishment from the atmosphere than they employ in their own sustenance, and when the formation of the woody substance has advanced to a certain extent, the expenditure of the nutriment, the supply of which still remains the same, takes a new direction, and blossoms are produced. The functions of the leaves of most plants cease upon the ripening of their fruit, because the products of their action are no longer needed. They now yield to the chemical influence of the oxygen of the air, generally suffer therefrom a change in color, and fall off.

A peculiar "transformation" of the matters contained in all plants takes place in the period between blossoming and the ripening of the fruit; new compounds are produced, which furnish constituents of the blossoms, fruit, and seed. An organic chemical "transformation" is the separation of the elements of one or several combinations, and their reunion into two or several others, which contain the same number of elements, either grouped in another manner, or in different proportions. Of two compounds formed in consequence of such a change, one remains as a component part of the blossom or fruit, while the other is separated by the roots in the form of excrementitious matter. No process of nutrition can be conceived to subsist in animals or vegetables, without a separation of effete matters. We know, indeed, that an organized body cannot generate substances, but can only change the mode of their combination, and that its sustenance and reproduction depend upon the chemical transformation of the matters which are employed as its nutriment, and which contain its own constituent elements.

Whatever we regard as the cause of these transformations, whether the *Vital Principle*, *Increase of Temperature*, *Light*, *Galvanism*, or any other influence, the act of transformation is a purely chemical process. *Combination* and *Decomposition* can take place only when the elements are disposed to these changes. That which chemists name *affinity* indicates only the degree in which they possess this disposition. It will be shown, when considering the processes of fermentation and putrefaction, that every disturbance of the mutual attraction subsisting between the elements of a body, gives rise to transformation. The elements arrange themselves according to the degrees of their reciprocal attraction into new combinations, which are incapable of further change, under the same conditions.

Plants thrive in powdered charcoal, and may be brought to blossom and bear fruit if exposed to the influence of the rain and the atmosphere; the charcoal may be previously heated to redness. Charcoal is the most "indifferent" and most unchangeable substance known; it may be kept for centuries without change, and is therefore not subject to decomposition. The only substances which it can yield to plants are some salts, which it contains, amongst which is silicate of potash. It is known, however, to possess the power of condensing gases within its pores, and particularly carbonic acid. And it is by virtue of this power that the roots of plants are supplied in charcoal exactly as in humus, with an atmosphere of carbonic acid and air, which is renewed as quickly as it is abstracted.

In charcoal powder, which had been used for this purpose by *Lukas* for several years, *Buchner* found a brown substance soluble in alkalies. This substance was evidently due to the secretion from the roots of the plants which grew in it.

A plant placed in a closed vessel in which the air, and therefore the carbonic acid, cannot be renewed, dies exactly as it would do in the vacuum of an air-pump, or in an atmosphere of nitrogen or carbonic acid, even though its roots be fixed in the richest mould.

Plants do not, however, attain maturity, under ordinary circumstances, in charcoal powder, when they are moistened with pure distilled water instead of rain or river water. Rain water must, therefore, contain within it one of the essentials of vegetable life; and it will be shown, that this is the presence of a compound containing nitrogen, the exclusion of which entirely deprives humus and charcoal of their influence upon vegetation.

[From 'Transactions of the Essex Agricultural Society.']

AGRICULTURAL SEMINARY, AT ANDOVER.

We have been requested to present the following notice of a course of study contemplated in the Teachers' Seminary, at the South Parish in Andover. It so fully harmonizes with the views expressed in Dr. Nichols' essay, and is so well calculated to meet what we consider the present wants of the community, that we cheerfully recommend the institution to those, who are desirous of educating their sons to be intelligent and independent farmers. At a time when the most distinguished men of our country feel it their highest honor, that they are *farmers;* and, when all the *learned professions*, so called, are *over stocked*, it becomes us, farmers, to consider what is the best manner of educating our sons.

"Arrangements have been made to introduce scientific agriculture as a regular branch of study; one of the teachers has been engaged, during the past winter, in investigating agricultural chemistry, with a view to give instruction on the subject, and to prepare a text book for the use of the students. Instruction will be given on the subject the coming term, which commences March 25th, in connection with the lectures and experiments in chemistry. The plan of adding scientific agriculture to the branches already pursued, originated from the belief that scientific agriculture must be made a regular branch of study in our literary institutions before we can make farmers scientific men, and produce a permanent improvement in our system of rural economy. It is our object to afford facilities to our young men for obtaining a thorough English education, especially to obtain a knowledge of the various branches of natural science, that they may be able to understand and apply the great principles of scientific agriculture which lay at the foundation of all successful practice. We propose to teach them botany and physiology, minerology, geology, and chemistry, with its application to agriculture, and to afford them the opportunity to witness the operations of tillage under the direction of a teacher. No labor will be *required*, but the opportunity will be given for those who feel disposed, and a fair remuneration paid. The instruction in scientific agriculture will be connected with the process of analyzing soils. Fully believing that this plan will be of the highest practical advantage to the farming community, and the only one which will ultimately elevate the employment, and raise up a generation of scientific farmers, we confidently present it to the community for their co-operation and patronage."

Jan., 1841.

From the British Farmer's Magazine.

COWS AS BEASTS OF DRAUGHT.

It seems somewhat odd, that while we have compelled the horse, the ox, the mule, the ass, and even the dog, to work as beasts of draught, the cow should have been generally overlooked. Whether the experiment may have been tested, and found to fail, I know not; but certain it is, that instances are very rare in this country, where the cow may be seen toiling as the horse. Extraordinary, however, as it may be, a few years ago, a cow was to be seen on the banks of the Leeds and Liverpool Canal, pulling a boat along with comparative ease, and a proportionate degree of gravity; thus furnishing the boatman with both labor and milk.

The Flemings, too, are beginning to make use of the cow as a beast of draught, and that animal is made to cart, plough, and drill, for perhaps five or six hours per day. And it will be readily granted, I presume, that plenty of work of a suitable nature for the cow to execute, may mostly be found on any farm.

I know our farmers are slow to adopt any practice which is strange to them, hence the tardy progress of agriculture; others, again, will condemn untried whatever is recommended to them; which perhaps will be the case with the subject in question. Such, however, must not be heeded, for if they are so wilfully obtuse as to stand in their own light, the blame must lie in themselves. There is nothing particularly startling in a case of this sort. If a cow can be made to work a few hours a day, without lessening the quantity of her milk, why should not her labor be acceptable? But of course it is the small farmer who is most likely to profit by it, or the laborer who may have his acre or two of land, a cow or two, but no horse; and, as a matter of course, for such only is the hint intended.

In laying this subject before your readers, I anticipate the return of information which must be valuable; I have seen in your Magazine, at various times, papers on the disease of stock, evidently the productions of able veterinarians, and it is likely that those individuals could well ascertain the propriety or impropriety of so using the cow. I earnestly hope that some of those gentlemen will take up the question, and give a definitive opinion on the matter at the outset; and if the cow can really be made more useful than she now is, I hope the practice will be introduced. These are the times for economy on the farm and elsewhere too, and a man is not to be blamed for using proper means to lessen his outlay; hoping, therefore, that the subject will meet the attention of reasonable men, "who look before they leap," and who will not hesitate to express their opinions decidedly on it,

I remain, Sir, yours, &c., INQUIRER.

Farnsworth, Lancashire, March 23, 1840.

For the N. E. Farmer.

TREATMENT OF COWS BEFORE AND AFTER CALVING.

Mr Editor—In reply to questions of "A Herdsman," in the Farmer of the 28th of April, you have quoted from Youatt, some part of which deserves notice, as being wrong in practice.

He says it is "a cruel thing to separate the mother from the young so soon," but has not said how soon. Now, experience has taught me that the calf should be separated from the cow as soon as it has become dry, and taken what milk it needs for the time. The cow will bear the separation better than if it be permitted to remain with her longer: she will give down her milk better. It is the most effectual way that can be taken to make a cow hold up her milk, to let her calf remain with her day after day, as the manner of some is, she will give none, or little more milk than the calf can take, which will cause the bag to swell and get it in a bad state.

Giving "a pound of Epsom salts," as recommended by Youatt, is worse than useless, because every farmer, certainly every observing one, knows that the exertions of the cow in the act of bringing forth, causes her to scour, the same as any other violent exercise to which she is not accustomed.

Some—particularly modern "gentlemen"-farmers—suppose that a cow should be highly fed for some time before calving: this is their philosophy. Nothing can be more erroneous—or experience to me has been a poor teacher. My experience agrees exactly with that of "A Farmer's Boy," in the Farmer of the 12th instant. When I was a boy, my father kept some cows, and they were full fed on the best of hay, (roots then not being the fashion,) for some weeks before calving:—his cows, most of them, had swollen bags, and more or less of them had to be doctored every spring. My practice for many years has been different. For about two weeks before calving, they are kept on hay of a little better quality than what they have had through the winter: they will not give so much milk at first, as when they have been kept high; but no matter; feed sparingly for a few days, increase the quantity and quality of the food, gradually, and the milk will increase; they will be better in my opinion through the season, than if fed high before calving. It is on the same principle that cows wintered on meadow hay till near calving, (I do not mean bog grass nor pollypod, but good meadow hay,) will do better; that is, will give a greater quantity of milk through the summer, than when wintered on English hay. I can produce an instance where the experiment was tried on the same cows. At one of the agricultural meetings at the State House, last winter, Col. Jaques stated that he had known two instances of cows being spoiled for milk, by being fed highly with Indian meal. The fact I do not doubt: it is natural that it should be so. Indian meal is of a hot, drying quality and has a tendency to dry up the juices—the very thing to make milk. It is for the same reason, viz: its drying quality, that beef fattened wholly on Indian meal is not so juicy as that fattened on roots. This may be to some a new and strange idea, and cause them to say if the writer is ever drowned, they must look up stream for him; but believed or not, it is nevertheless true.

A FARMER.

May 26, 1841.

DISEASES IN TURNIPS.

The extensive and repeated culture of the turnip, has fostered the rapid increase of its natural enemies; and after all the pains, labor and expense of the cultivator, he often sees his crop entirely destroyed or seriously injured. The remedies he can apply for many of these, can only be termed palliative; but still he has much in his power; and as the knowledge of natural history and field-entomology advances, he may expect more and more assistance.

The turnip flea, *(Haltica nemorum,)* is one of the worst enemies which attacks the turnip plant; which it does when in its seedling state, and often destroys a crop, and even the second and third sowings. It was once thought to be hatched from an egg deposited on the seed, but that opinion is now entirely exploded; and it is proved to deposit its *ovæ* on the leaves of the infant plant. It is of the order *coleoptera* and family *chrysomelidæ*. Various steps have been taken in order to prevent its attacks, and several steeps for the seed used, but without success; top dressings of a saline and astringent character have been applied, but have failed; machines have even been invented, but none of these have succeeded. The only directions which can be given are—sow plenty of seed; use stimulating manure, to excite the plants to vigorous growth in their first stages; and secure a sufficiency of moisture in the soil at the time of sowing; especially keeping the fields clear of charlock, which nurses the flea.

The black caterpillar—larva of the *Athalia centifoliæ*—also preys upon the leaves in a more advanced stage, appearing on the plants when they are about three weeks old. It is of the order *hymenoptera*, family *tenthridinidæ*. For an account of its natural history and methods of destroying it, the writer refers to the last year's report.

Another disease to which the turnip is liable, is vulgarly called "fingers and toes:" about a month after the plants have made their appearance, they begin to flag their leaves, and in a few sunny days literally die by acres together. On examination, the fibres of the roots are found enlarged, and the root covered with tumors and excrescenses of every conceivable shape. It is a matter of dispute whether this is an organic disease in the plant, from some peculiarity in the soil, or the primary work of an insect. That an insect, in its maggot state, feeds upon these tumors, the writer has long known; but he has not been able satisfactorily to decide whether the insect is a cause or an effect of the disease. It is one of the *mucidæ*. A naked fallow is a remedy for it; but all applications to the soil and plant have been ineffectual.

The wire-worm is a sad enemy. It forms the subject of one of the Society's prize reports. To that I refer. The swarms of aphides, or plant lice, severely injured the turnips; and from the smallness of their size, are often unobserved. In 1836, they committed terrific ravages. They suck the juices of the plant, and appear in countless numbers. They are both oviparous and viviparous, and increase with amazing rapidity. Happily they are always followed by swarms of lady-cows, which feed on them, as well as insectiverous birds, which destroy vast numbers. No remedy can be applied with any probability of success. Every farmer should carefully protect swallows, red-breasts, &c., which are great destroyers of the aphides.

Slugs are, especially on newly ploughed soils, great devourers of the turnip plant in all its stages. Ducks will devour them, but always injure the plants. Three bushels of quick lime per acre sown on the plants early in the morning, when the slugs are active, is a certain method of destroying them. Perhaps the very best preservation from all the above diseases may be stated to be—liberal manuring, adapted to the soil—thorough clearing of the land from weeds—and in short, pursuing the steps above detailed, for securing a full crop. The vigor of the plants in such cases, and their rapid vegetation, often enable them to overcome many serious attacks.—*British Farmer's Magazine.*

TRANSPIRATION OF PLANTS.

Dr. Hales found that a sunflower, in twelve hours, transpired by its leaves, one pound fourteen ounces of water, all of which must have been imbibed from the soil by the roots. Water is the vehicle which conveys nourishment to plants. The food which it holds in solution is imparted to a plant in a manner analogous to the nourishment imparted to the animal system by the food which passes into the stomach. Hence the growth of the plant depends much on the presence of moisture, as well as of vegetable matter in the soil, and upon the sufficiency of roots to take it up and convey it to the trunk. Thus a tree divested of a great portion of its roots in transplanting, makes a new wood only in proportion as these are replaced by a new growth; and thus also a plant grows faster in a moist than in a dry soil, (the fertility of both alike,) and faster in a mellow soil where the roots can fully extend and multiply, than in a hard one.

These facts suggest to the farmer the impropriety of plowing deep between the rows of corn and other crops, whereby the roots are broken and wounded, and exposed to the drying influence of the sun and winds. 2. The importance of keeping his crops clear of weeds and all useless plants, which rob the soil of food and moisture. And 3, the propriety of transplanting his trees while young, when the system of roots can be preserved nearly entire, and of surrounding the roots with a bed of mellow, rich earth.—*Selected.*

Mixture of Salt and Lime.—This is an easy application: it is only for the farmer to buy 100 bushels of lime, and put 50 bushels of salt in a clamp, dug as if for potatoes or mangel wurtzel; lay it altogether, and mix it up with water till it comes to the consistency of mortar; cover it up close, and let it lay three months, and then apply it to the field, either by sowing or spreading it; 30 bushels an acre is the quantity for outside application on land for barley or wheat, or grass; and when the grass is subject to moss, it will be very beneficial. Where lime is applied to pasture, there you are sure to see what is called Dutch clover, and you will always find it to be so.—*Mr Mapletoft.*

It requires more magnanimity to give up what is wrong, than to maintain that which is right; for our pride is wounded by the one effort and flattered by the other.—*Lacon.*

The praise of the envious is far less creditable than their censure; they praise only that which they can surpass, but that which surpasses them, they censure.—*Ib.*

GRASSES.

We copy the following extracts from "a Discourse before the Chester County (Penn.) Cabinet of Natural Science, by Wm. Darlington, M. D.

"I propose to attempt a cursory notice of the character, properties, and importance to man, of a single tribe, or family, of the vegetable creation, known to the naturalists by the name of *Graminеæ*, or the true grasses; and while I calculate with some confidence, upon a fellow-feeling among the *Botanical* portion of the audience, I am not without a hope, that, in a district so distinguished for its agricultural advancement, the subject will also be found to possess a degree of *general* interest.

Before entering into particulars, however, it may be useful to make some preliminary explanations—or, as the politicians say, to "to define our position." The term *grass*, in our vernacular tongue, is frequently used in a vague sense, to designate every kind of herbage found in our meadows and pastures. Hence, we often hear people speak of clover, lucerne, and other plants which have no botanical affinity with the *true* grasses, as though they really belonged to that remarkable tribe of vegetables. But such is not the language of naturalists; and ought not to be, of any well-informed person. An accurate knowledge of objects can neither be acquired nor communicated, without precision in the use of terms. The distinctive characters of that family of plants of which we propose to treat, are now well understood, and have been satisfactorily defined.

Whenever we meet with a plant having a cylindrical, jointed stem, with the joints solid, and the intervening portions hollow, or, in a few instances, filled with a pith-like substance,—the leaves alternate, one originating at each joint, embracing the stem with its base, and forming a sheath which is slit on one side down to its origin,—and the flowers protected by those peculiar envelopes, known by the name of chaff,—we may take it for granted that we have before us a *true* grass. Brief and simple as is this definition, it will be found to contain the most obvious characteristics of the tribe; sufficient, it is believed, to distinguish it from all others. While we are on the subject, however, a few additional traits may perhaps be adverted to, with propriety. The *cuticle*, or skin of the grasses, (for they have no bark, properly so called,) contains a considerable portion of *silex*, as is shown by its vitrification, when stacks or other dense masses of unthrashed grain are burnt. A sort of grass is produced from this silex, which preserves the form of the plant even to its minutest parts. The nerves or veins in the leaves of this family, are all nearly parallel—in consequence of which, those appendages (i. e. the leaves,) are entire, generally narrow, elongated, and more or less linear in their form. The flowers are mostly small, disposed in little clusters or spikelets, and these spikelets are variously arranged, in spikes, racemes, or loose panicles. Each spikelet—consisting sometimes of one, but more commonly of two, three, or many florets—is usually embraced or supported at base, by two chaffy pieces called *glumes*; and each floret is immediately protected by two somewhat similar chaffy coverings, which, for the sake of distinction, are denominated *paleæ*. These chaffy coverings of the flowers and seeds of the grasses, are wholly unlike the delicate and showy floral envelopes of most other plants, and seem to be, in fact, the mere stunted vestiges of abortive leaves, or rather of their sheaths, closely crowded together.

Having thus hastily glanced at some of the more striking features of the extensive tribe, technically denominated grasses, and the characters by which they are distinguished from other plants, I flatter myself we shall have no difficulty in recognizing any member of that family which may come in our way. It will be no news, indeed, to any of us to be told that "Red-top," "Timothy," and "Fox-tail," are grasses; and we all, perhaps, may be aware, that our cultivated Oats, Barley, Wheat and Rye, and even Rice, belong to the same category: but the fact may not be equally familiar to every one, that our Indian Corn and Broom Corn, the Sugar Cane and the Bamboo, are also true and genuine grasses. Much as these last mentioned plants seem to differ from the multitude of common grasses, the disciplined eye of the botanist perceives at a glance, that they all belong to the same family; and indeed, so eminently natural is the whole tribe, i. e. so strong is the general resemblance in the characters and habits of its members, that superficial observers, finding it so much easier to adopt them, than to verify the crude notions of the vulgar, have actually supposed several species to be continually and reciprocally changing into each other.

In an agricultural point of view, the superior value of the grasses as materials for pasture and hay, is owing to the large quantity of saccharine matter with which they abound, about the time of flowering; and which is the source of that rich, sweet odor, observable in well-preserved hay. This saccharine matter, which pervades the whole plant before flowering, and is most perfectly elaborated at that epoch, is designed to be ultimately concentrated and deposited in the seeds, chiefly in the form of farina; and hence we find the herbage of comparatively little value after the fruit is fully matured. The skilful agriculturist, therefore, when he wishes to have good hay, cuts his grass at the moment when the nutritious juices are most perfect, and while they are diffused throughout the plant. But when his main object is the seed, as in our cultivated grains, he of course postpones his harvest until the career of vegetation is finished. It is needless to enlarge on the importance of the herbage of the grasses, in supplying the food of our domestic animals, and, indirectly, the animal portion of our own food. I will, however, mention those species which are deemed of chief value in our meadows and pastures, naming them in what I consider the order of their excellence. 1. The meadow, or Green Grass, erroneously called "Blue Grass," in Kentucky, *(Poa pratensis, L.)* 2. Timothy, or the "Herd's Grass," of the Northern States *(Phleum pratense, L.)* 3. Orchard Grass *(Dactylis glomerata, L.)* 4. Meadow Fescue *(Festuca pratensis, L.)* 5. Blue Grass, *(Poa compressa, L.)* 6. Ray Grass, *(Lolium perenne, L.)* 7. Herd's Grass, of Penna., often called "Red-top;" the "Bent Grass," of the English, *(Agrostis vulgaris, L.)*—and 8. Sweet-scented Vernal Grass, *(Anthoxanthum odoratum, L.)* Those generally cultivated here, are the Timothy and Orchard Grass; and occasionally we see the Ray and Herd's Grass, or Red-top, though these last are not so much esteemed. The others are completely naturalized; and when the soil is either originally fertile or adequately improved, the best of them, viz: the Meadow Grass and the Fescue, soon appear spontaneously in our pastures, and supersede the artificial ones.

The least valuable, perhaps, of *Cerealia*, or those grasses which are cultivated here for the sake of the seeds, is the common Oats, *(Avena sativa, L.)* This grain is lighter and less perfect with us, than it is in the north of Europe, and is almost entirely appropriated here, to the feeding of domestic animals; but in less favored climes, it contributes largely and directly to the sustenance of man. The better quality of this grain is sometimes malted, when the demand warrants or rewards the labor; and a small portion is manufactured into meal, as an article of diet for the sick; but both these operations are very limited in our country.

Ascending in the scale of value, we next find Barley *(Hordeum vulgare, L.)*—a grain which, in some regions, is extensively used for bread, and more or less as food for horses and other stock; but in our own country, it is almost exclusively employed in the manufacture of a rich potation, known to us all by the names of Beer, Ale and Porter. The immense crops produced in the middle and northern States, are nearly all destined for the breweries, a comparatively small portion being used in the distilleries. To prepare the grain for these establishments, it must undergo the process of malting, or incipient vegetation, in order to form the sugar, which is the source of the alcoholic strength of fermented and distilled liquors. It is found that when seeds begin to germinate, the farina or mealy portion is partly converted into sugar, by diminishing its carbon and augmenting the proportion of its hydrogen and oxygen; and this saccharine transmutation is precisely the operation of malting. The skill of the malster consists in arresting the germination, at the critical moment, when the formation of sugar is most complete and abundant. This he does by drying it in a kiln.

The grain next superior in importance—being used to a considerable extent in making bread, is Rye (*Secale cereale, L.)* In our own State, from the force of custom, or prejudice, and the greater abundance of wheat, we are in the habit of undervaluing the bread made of this grain. But in many districts, where the soil is better adapted to the plant, rye is very generally used, and highly esteemed. It is also employed to a most mischievous extent in the production of the ardent spirit called *whiskey*. In this case, the preliminary operation of malting, though sometimes practiced, is generally dispensed with, as being too costly. The grain is merely chopped, or coarsely ground, and, in conjunction with a small per centage of malt, is subjected to fermentation; by which process, also, the farina loses a portion of its carbon, and becomes sufficiently saccharine to yield large quantities of impure alcohol. So great is the amount of ardent spirit procured from this grain, and so tremendous the abuse resulting from the practice, that it may be doubted, on the whole, whether rye does not contribute more largely to the *destruction* than to the *sustenance* of human life. Certain it is, that by the conversion of its wholesome farina into an intoxicating draught, it is made a potent instrument of physical and moral evil—a most prolific source of disease, misery and crime. All these mischiefs, however, arise from the misapplication and abuse of a positive good; for which man, himself, must be held accountable, and must expect the penalties inseparable from folly and wickedness.

The next most valuable plant among the *Cerealia*

is, perhaps, our Indian Corn (*Zea Mays, L.*) And, indeed, in the districts most favorable to its culture, it may be said to rival wheat itself in importance. Those who are not in the habit of regarding the vegetable kingdom with a botanical eye, may possibly be surprised to hear this plant enumerated among the *Grasses*; yet, if they will advert to the definition already given, they will find the Indian Corn to be a genuine member of the Gramineous tribe. It presents, indeed, one of the few instances in which the stem is solid with pith, instead of being hollow or fistular between the nodes; but in every essential feature it will be found on examination to be a true and undoubted grass. The same remark applies to the Broom Corn, the Sugar Cane, and some others, in which the culm is filled with pith. In a district like this, where every occupant of a field or garden, cultivates his crop of Indian corn, it would be wholly superfluous to dwell on the excellence and manifold uses of this universal favorite. Suffice it to say, that while it is the most productive of our cultivated grains, every portion of the plant has its value in rural and domestic economy. The large pithy culm about the time of flowering, is replete with a rich saccharine juice—from which, no doubt, a considerable quantity of sugar might be extracted. The entire herbage is, therefore, highly esteemed as a nutritious food for cattle; the ears, or spikes of fruit, afford a choice treat to the epicure, even before they arrive at maturity; and when fully ripe, yield copious nourishment, in many forms, both for man and beast; while the very receptacles of the seeds—long considered as mere refuse—may be either ground with the grain as food for stock, or reserved as a convenient auxiliary fuel, in lighting up our anthracite fires. In Pennsylvania, and generally to the North, the farina of Indian corn is not extensively used by itself, in making bread, probably for want of skill and usage; but whoever has experienced the hospitality of our fellow-citizens on the southern side of "Mason and Dixon's Line," knows that corn bread is there admirably prepared and almost universally preferred to every other kind. The inhabitants of the West Indies, also, derive a large portion of their subsistence from our crops of Indian corn. It must be added, moreover, that a vast amount of this grain, in conjunction with rye, is converted by the distilleries into alcoholic poison—and its wholesome properties transmuted into the pestilent ministers to a depraved appetite. There are two other grain-bearing grasses yet to be noticed; each of which is so eminently valuable to the human race, that it is not easy to say which is entitled to the highest position in the scale of importance. It will of course be understood that I refer to Wheat (*Triticum sativum, L.*,) and Rice (*Oryza sativa, L.*) In point of *intrinsic* value, I think there is no doubt that wheat may justly claim the precedence; but as rice is believed to afford sustenance to a larger portion of the human family than any other grain, we may allow it on this occasion to take rank as the first among the *Cerealia*—and therefore, according to our arrangement of the subject, the last to be treated of. Wheat, however, is clearly the most important of the grains, in the temperate zones, especially in the higher latitudes. I shall not trespass on your patience by enlarging on a subject so familiar to all, as is the value and importance of wheat. You are all aware that in the greater portion of our happy country, especially in the middle and western States, it is one of the prominent objects of our agriculture. So long, therefore, as our people shall apply themselves to the tillage of the soil, we may reasonably hope to be exempted from that fearful calamity, a want of bread. In addition to the supply of food furnished by wheat, I may remark that our laundresses are chiefly indebted to its farina for that important article in their operations known by the name of starch; and in the olden time, when, whatever may have been the interior condition of the head, fashion required the *exterior*, at least, to be conspicuously decorated, the same amylaceous extract supplied the hair-dresser with his *powder*. As we have neglected the *external finish*, so elaborately bestowed on the pericranium, by our ancestors, it would seem to be but reasonable that we should give the more attention to the furniture *within*.—Although capable of yielding alcohol—like all the farinaceous seeds—Wheat is generally too valuable, as an article of food, to be desecrated by the process of distillation.

In our notice of the *Cerealia*, the last in order, and, as is supposed, the first in importance, by reason of its extensive use, is the Rice plant. The beautiful grain which this grass affords, though considered by us here more as a delicacy than as a standing dish, is the principal sustenance of millions of the human race. Being a kind of semi-aquatic plant, Rice flourishes best in grounds that are low and marshy, or situated that they can be overflowed—though there is a variety called upland or Mountain Rice, which is much cultivated; and every where, within the tropical and adjacent regions, where circumstances are favorable to its culture, this admirable grass is to be found. In the southern parts of India—as I have had occasion to witness—the dense and squalid population is almost exclusively subsisted upon rice. This plant belongs to a small subdivision of the grass tribe, in which the flowers are often furnished with the extraordinary number of six stamens—or possibly they may each consist of two florets concentrated within the proper envelopes of a single flower—by which crowding process, all the parts of one of the florets, except the stamens, may be suppressed, or abortive; a phenomenon, of which it is believed there are many analogous instances in the economy of vegetation. The seeds are closely invested by the inner chaffy envelope, or palea, after the manner of oats and barley and while thus coated, are known in the East by the name of *Padda*. They are deprived of this covering by passing them between mill-stones properly adjusted for the purpose, and are thus prepared for the culinary department, much in the same way that hulled and pearl barley are manufactured. The albumen, or farinaceous portion of rice, is of a remarkably pure white—almost translucent—and of a very bland, nutritious quality. The gluten which it contains, enables the Chinese to manufacture from it various ornamental articles of great beauty and delicacy. This gluten is also said to be an important ingredient in the preparation of Japan paper. The art of extracting alcohol from the seeds, has been applied to rice as well as to the other *Cerealia*. The fiery liquor called Arrack—the generic name, in the East, for alcohol—is obtained by distillation from rice, in conjunction with sugar, or the juice of some species of palm; and in China, an amber-colored wine is also made from that grain.

From the sketch now presented—(which I fear has been tedious,) though extremely superficial and imperfect—I think it may be perceived that the simple tribe of plants technically called *Grasses*, is not only one of the most abundant, but decidedly the most valuable and important to man, of all the many natural families in the vegetable creation. That while its peculiar characters cannot fail to interest the lover of natural science, its uses, abuses, and manifold relations to the welfare of society must ever give it a strong claim to the attention of the agriculturist, the philanthropist and the political economist."

NATIONAL AGRICULTURAL SOCIETY.

The editor of "The Agriculturist," (Nashville, Tenn.,) represents us as opposing the locating of the school to be connected with this Society, *at Washington*; and as "vehemently urging the propriety of the location being in Yankee land." In this passage our views are not correctly reported. We thought a *national* society and a *national* school would be unwieldy; and preferred *sectional* societies, and thought New England sufficiently large for one section; and of course desired the school for New England to be "in Yankee land." If there be a *national* school, we can adopt the language of the Agriculturist in relation *to that*, and say, "we do not think ourselves very strong sticklers for *such* a school, admitting there is one established, being in any particular section of the country."—Ed. N. E. F.

BENEFITS OF A CLAY MIXTURE ON SANDY LANDS.

A correspondent of the Western Farmer says: "Several years since, when a resident of New England, I purchased a piece of dry, sandy land, denominated there "pine plains," that had been very much worn. A portion of it, about 1 3-4 acre, was on the verge of a deep ravine, and a little more elevated than the remainder of the lot. This piece had been sown the fall previous to rye and stocked with clover. The rye was harvested—an inferior crop—and the ground, I found in the fall, was not to appearance more than half stocked.—Not having manure for a spring crop, and clay being handy, I carted on to the piece about thirty ox-cart loads of clay; this, however, was not pure, but supposed to contain about one third sand; the same was spread upon the surface of the ground in the fall. In the spring it had formed a complete coating over the whole surface; the result was, a heavy crop of clover. The next spring, about 20 loads of yard manure was spread upon it. It was then broken up, rolled, harrowed and planted to corn, about the 10th of May. The result was, about *ninety bushels of sound corn*. I had corn enough for my own use and sold about fifty bushels for fifty dollars. This was my first experiment in farming. It is nearly eight years since the clay was applied, and I am told the ground is still benefited by it. The application was continued on other portions of the lot with equally beneficial results as long as I occupied it."

Time gives wings of lightning to pleasure, but feet of lead to pain, and lends expectation a curb, but enjoyment a spur. It robs beauty of her charms to bestow them on her picture, and builds a monument to merit, but denies it a house; it is the transient and deceitful flatterer of falsehood, but the tried and final friend of truth.—*Lacon.*

NEW ENGLAND FARMER,
AND HORTICULTURAL REGISTER.

BOSTON, WEDNESDAY, JUNE 9, 1841.

PHYSICAL EDUCATION.

Hast thou daughters? Have a care of their body.
ECCLESIASTICUS.

The inhabitants along the shore in the old Bay State, are becoming less robust and hardy than their fathers were. The present generation has less vigor and health than the last possessed. The causes are doubtless many —and not a few of them are hidden. But a hasty glance at society will disclose some departures of the present generation from the habits of the past age, which obviously tend to debilitate. The closeness of our dwellings, rendered desirable by the high prices of fuel, causes us to breathe a less pure atmosphere than pervaded the dwellings of the yeomanry in the times when the chimney corner would hold half a score of children; the extensive substitution of coffee and tea for milk, bean porridge and the like, have brought on a degree of feebleness;—the general use of fine wheaten flour instead of the coarse rye and Indian of former days has over loaded and weakened the digestive organs in many cases;—the fashion which excludes the *thick* shoe and boot, and exposes the foot to cold and wet, has helped to bring on many maladies;—the abandonment of wrestling and other games requiring great muscular efforts, (though perhaps the abandonment is wise,) may be a cause of the increase of feebleness. In short, less of hardship and more luxury in modes of living, have exerted their enervating influences upon our community for the last quarter of a century. And though we are still a vigorous, energetic and enterprising people; yet, as these characteristics are becoming less prominent, it is proper for us to inquire into the causes and help to stay their operations. We feel the duty incumbent, because we think that the intellectual, moral and religious character of individuals and nations has a close and intimate connection with the health and strength of the body. The public good, (not its prosperity in money-making merely)—the public good—in the highest, broadest, deepest sense of the terms—is closely interwoven with the general health and strength of the people. Therefore necessity is laid upon those who would be faithful public teachers, to discountenance all customs which tend to bring on general feebleness.

We commenced with a quotation from a wise man of olden times—"Hast thou daughters? have a care of their body;" and it was our purpose to say distinctly, that the physical education of those who are to be the mothers of the next generation, is the first duty of parents; yes, we distinctly put this branch of education first; for while we would have habits of truth and obedience early formed, we are persuaded that these and other good habits are of much less worth to the world when found in one of feeble constitution, than when connected with a healthy frame, that has power to act out the promptings of the soul. *Make the child hardy;* and to do this, the food must be simple, the clothing loose and comfortable, and exposure to the weather in all its states, must be habitual. The dirt, and wet and cold into which the child will rush with delight, are all contributors to its health and energy of character. There is much *imprudent prudence* in keeping children within doors,—much *cruel kindness* in keeping them from exposure—much weakening *poison* in the *healthful delicacies* furnished for their feeble digestive organs. Let kindness to your offspring be far-sighted. Let it remember that health is promoted by vigorous exercise and pure air. Let it not forget that winter's snows and summer's suns help to harden and strengthen the growing body.

Preserve the child from immoral habits and exercise little more restraint than is necessary for this, until the foundation of firm health is apparently well laid. There has been a tendency for a few years past to force the growth of the intellect in advance of physical growth; but this is a contravention of the course of nature, and must in many instances bring either death or debility. *He* who formed the mysterious connection between the body and soul, has obviously designed that the growth of the former shall precede that of the latter; and any course which shall prematurely develope the mind and call it into highly vigorous exercise in early childhood, is necessarily attended with danger of destroying the body.

But we designed to speak particularly of the physical education of daughters. Let them be accustomed to regular and vigorous exercise, and that too in the open air. It is becoming almost barbarous to send the girls to the milking stool and to the lighter work in the field. We are not without a share of the feeling on this subject which peruades this vicinity; and yet looking at the future and reasoning from well known facts, the conclusion is irresistible that it would be better—far better—better for *them* and better for the next generation, that our daughters should engage in the out-door labors which their grandmothers performed. Then a fresher bloom would spread over their cheeks, and more healthful blood would flow in all their veins. They would discharge their household duties with more despatch and less fatigue. Their spirits, graduated by their health, would diffuse more life into the family circle—and the mind, sympathizing with the body, would be clearer in its perceptions, more prompt in its decisions, more efficient in all its operations.

Looking forward to the future, we see not how it is possible for any other than a feeble race to be produced from the pale-faced girls, of compressed forms, that are growing up in both city and country. The subject is one of delicacy, but it is so closely connected with human welfare, that some obvious truths connected with it should not be suppressed. We say that the same laws by which, in brutes, the offspring partake of the characteristics of the parents, operate in the human species; and no female can reasonably expect to be the mother of a healthy family of children, who has not a firm and robust constitution. The weaknesses produced by stimulants, by unwholesome food, inactivity, impure air, tight lacing, thin shoes, or avoidance of vigorous exercise, will be transmitted to their children. The sins of the parents are visited upon the children for generations. These truths teach a lesson that should be heeded. Could the young of either sex, but be made acquainted with the facts which we have witnessed, they would learn that the marriage relation often—very often results in a family of feeble and inefficient children, and this too in consequence of such weaknesses in the parents as should have deterred them from entering into the married state. For we hold it to be wrong for any intelligent being to be voluntarily instrumental in bringing others into existence, when the probability is strong that the chidren will inherit such weaknesses as will render them unhappy or burthensome to society.

This subject of physical education is more closely connected with human welfare than almost any other that can be agitated. We have not discussed it; but the hints here given may cause some of our readers to make it matter of serious and useful reflection. Should we but feel it a duty to disclose all our convictions relative to this subject; and could our advice be taken, many of the young of each sex would go down to their graves unwedded and childless, and this too, not oftener from any faults of their own, than from the faults of parents and of fashion, which have rendered them permanently feeble.

THE L'ETANG AND MAINE LIMES.

"The L'Etang lime contains 99 3-10 per cent. of pure limes in each 100 lbs. of the quick lime.

"About 300 lbs. in a cask—2 1-10 only of impurities.

"The Maine lime averages about 60 per cent. of pure lime and 40 per cent. impurities."

On seeing the above paragraphs appended to the statement respecting the L'Etang lime in our last paper, Mr Davis, the agent of the company, called upon us immediately to say, that he had not authorized any such assertions as they contain; and that he considered them highly improper and unjust, as the Maine limes which were manufactured for the market, were not only good, but *most* of them *very good*. The comparison was made without his knowledge, and never received his signature.

LARGE CUCUMBER.

Mr J. Crawford, of Bedford, who sent to us a fine cucumber when the weather was so cold that the thought of eating such a vegetable made one shiver, has now favored us with another, 17 inches long, which in these bright warm days is very tempting. This gentleman must be uncommonly successful in the growing of the cucumber, and if his process is peculiar, we invite him to make it public.

BEES IN A BARN CHAMBER.

We have been informed that bees which Gov. Lincoln had put in a chamber in his barn, made an attack a few days since upon his oxen, when they came from the field, sweaty. The cattle were so annoyed that they broke down the fences in various places and became entirely unmanageable. We remember having seen, when a boy, the old horse similarly attacked, when taken from the plow and tied near the bee house. These facts may render it desirable to place bees remote from places where we must regularly bring our beasts of labor.

Massachusetts Horticultural Society.

Saturday, June 5, 1841.

Samuel Walker, of Roxbury, exhibited twelve stalks of Rhubarb, weighing 6 3-4 pounds—very fine.

AARON D. WILLIAMS.

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FRUIT COMMITTEE.

The Committee on Fruits of the Massachusetts Horticultural Society, will please meet at their room on Saturday next at 10 o'clock, A. M, in relation to premiums for the ensuing year.

B. V. FRENCH, *Chairman.*

June 8.

The Maine Farmer states a method by which Twitch or Couch Grass (*Triticum repens,*) was effectually destroyed. The experimenter plowed it under all of a *foot deep*, then harrowed and cultivated the ground as usual, and it never troubled him afterwards. He took good care to lay the furrows completely over, so that every part of the grass should be laid fairly and deeply under.

Warm. In this city, on Monday, the mercury rose to 88 in the shade.

THERMOMETRICAL.

Reported for the New England Farmer.

Range of the Thermometer at the Garden of the proprietors of the New England Farmer, Brighton, Mass. in a shaded Northerly exposure, week ending June 6.

June, 1841.		5, A.M.	12, M.	7, P.M.	Wind.
Monday,	31	42	64	50	S. E.
Tuesday,	1	45	62	61	N. E.
Wednesday,	2	51	81	68	N.
Thursday,	3	52	68	63	N.
Friday,	4	47	74	70	N. W.
Saturday,	5	55	63	61	N.
Sunday,	6	54	76	58	S. E.

We have had no rain during the week, and but little for two weeks past, and the earth is getting dry; very dusty travelling indeed.

BRIGHTON MARKET. — Monday, June 7, 1841.

Reported for the New England Farmer.

At Market 240 Beef Cattle, 20 pair of Working Oxen, 15 Cows and Calves, 250 Sheep and 540 Swine. 75 Beef Cattle remain unsold.

Prices.—*Beef Cattle.*—We quote to correspond with last week, about the same prices were obtained for a like quality. First quality, $6 75 a 7 00. Second quality, $6 25 a 6 50. Third quality, $5 25 a 6 00.

Working Oxen.—Sales $55, $70, $82, $90, and $95.

Cows and Calves.—Sales, $24, $28, $30, and $38.

Sheep.—Lots were sold at the following prices, viz: $1 50, $2 00, and $3 25.

Swine.—Lots to peddle 5 for sows, and 6 for barrows. At retail from 5 1-2 to 7.

WHOLESALE PRICES CURRENT.

Corrected with great care, weekly.

SEEDS. Herds Grass, very little in market. Red Top, new seed by the bag 50 to 55 c. Clover—Northern, 13c. —Southern, 8 to 9 c. Flax Seed, $1, 37 to 1 50 bu. Lucerne, 25 c. per lb.

FLOUR. Howard Street $5 37—Genesee $5 25—Ohio $5 12.

GRAIN. Corn—Northern Yellow none—Round Yellow 68—Southern Flat Yellow 60—White 64.—Rye—Northern 60 to 65—Southern 50 to 55. Oats—Southern 36 to 38—Northern 33 to 40.

PROVISIONS. Beef—Mess $10 50 to 11 00—Prime $6 50—No. 1 $9 00. Pork—Extra—15 00—Clear 14 50—Mess $13 00. Hams—Northern 9 c. per lb—Southern, none. Lard—Boston 9 c per lb.—Southern, 8 to 8 1-2. Butter—Lump 18 to 22—Firkin 12 to 18—Shipping 8 to 14. Whole Hogs 5 1-2 to 6 c.—Pigs 5 c.

HAY, per ton, $20 to 22 50—Eastern Screwed $17 00.

CHEESE—Old 11 c—New 8.

EGGS, 11 a 12.

WOOL—The market for this article has not experienced any change of late. Pulled Wool is rather scarce, and there is but a limited supply of low Fleeces, and of fine Fleeces the stock is also moderate. Prime or Saxony Fleeces, washed, lb. 50 to 55 c.—American full blood, washed, 47 to 50—Do. 3 4 blood, washed, 44 to 46—Do. 1-2 blood, washed, 36 to 40—1-4 and common do, 35 to 37—Smyrna Sheep, washed, 20 to 28—Do. unwashed, 10 to 14—Bengasi Sheep, 8 to 10—Buenos Ayres unpicked, 7 to 10—Superfine Northern pulled lamb 43 to 46—No. 1 do. do. 37 to 42—No 2 do do 26 to 30—No 3 do do 18 to 20.

MASSACHUSETTS HORTICULTURAL SOCIETY.

A stated meeting will be held at the Rooms of said Society, on Saturday next, June 5, at 11 o clock, A M.

E. M. RICHARDS,
June 2. Recording Secretary.

MASSACHUSETTS HORTICULTURAL SOCIETY.

NOTICE.

The exhibition of Pæonies, for premium, will take place at the Society's Room on Saturday, June 12th. The flowers to be ready for exhibition by 11 o'clock.

C. M. HOVEY,
June 9. Chairman of the Committee on Flowers.

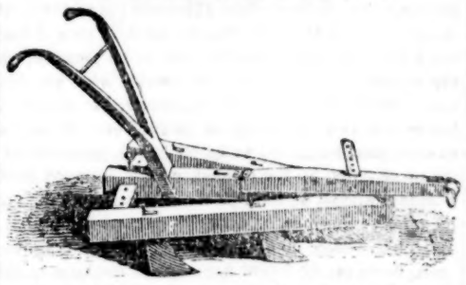
FULL BLOOD DURHAM CATTLE.

The subscriber will sell at public auction, at his residence in Pleasant Valley, foot of Atwell's Avenue, in Providence, 1 1-2 miles from the Great Bridge, on Wednesday, the 30th of June instant, at 11 o'clock, A. M.

20 head of superior full and half blood Durham Cattle. Also, 20 full blood and half blood imported Southdown Sheep. A rare chance is offered in this stock to farmers and others to secure some of the finest Cattle ever offered for sale in this country, and as a whole there is seldom so choice a lot of herd book Cattle presented to the public. All interested are requested to call and examine this stock previous to the day of sale. Terms liberal. For further particulars see catalogue, which will be exhibited at the sale.

Providence, June 5, 1841. JOHN GILES.

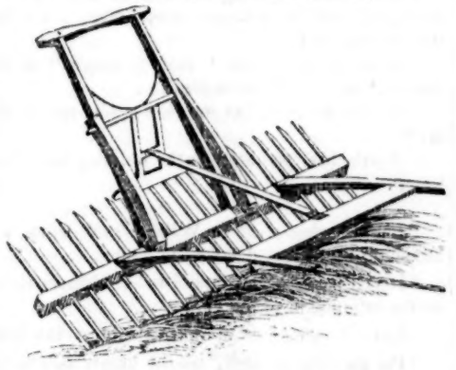
GOOD CULTIVATORS AT $3 50



Good Cultivators for sale at the New England Agricultural Warehouse, Nos. 51 & 52 North Market Street, Price $3,50. JOS. BRECK & CO.

June 9.

REVOLVING HORSE RAKE.



The Revolving Horse Rake has been in general use in most parts of Pennsylvania and New Jersey, and is found to be one of the most useful labor saving machines now in use. One man and horse, with a boy to lead, will rake on an average from 25 to 30 acres per day with ease, and do the work well. There is a great advantage in this rake over all others, as the person using it does not have to stop the horse to unload the rake.

For sale at Nos. 51 & 52 North Market Street, by
June 9. JOS. BRECK & CO.

DAHLIA POLES.

500 dozens of Dahlia and Bean Poles. Also, 2000 feet of Ladders, 16 to 40 feet in length, for sale by MOSES FRENCH, Jr., Maine wharf, Broad st. near the bottom of Summer st. 6w June 2

AGRICULTURAL IMPLEMENTS, &c.

The Proprietors of the New England Agricultural Warehouse and Seed Store No. 51 and 52 North Market street, would inform their customers and the public generally that they have on hand the most extensive assortment of Agricultural and Horticultural Tools to be found in the United States. Part of which are the following:

1000 Howard's Patent Cast Iron Ploughs	100 doz. Cast Steel Shovels.
300 Common do. do.	150 " Common do.
200 Cultivators.	100 " Spades.
100 Greene's Straw Cutters.	500 " Grass Scythes.
50 Willis' do. do.	300 " Patent Snaiths.
100 Common do. do.	200 " Common do.
100 Willis' Patent Corn Shellers.	500 " Hay Rakes.
50 Common do do.	200 " Garden do.
200 Willis' Seed Sowers.	200 " Manure Forks.
50 " Vegetable Cutters.	300 " Hay do.
50 Common do. do.	500 Pair Trace Chains.
200 Hand Corn Mills.	100 " Truck do.
200 Grain Cradles.	100 " Draft do.
100 Ox Yokes.	500 " Tie up do.
1500 Doz. Scythe Stones.	50 doz. Halter do.
3000 " Austin's Rifles.	1000 yards Fence do.
	25 Grind Stones on rollers.

March 17.

FENCE CHAINS.

Just received from England, 10,000 feet Chains, suitable for Fences or other purposes. For sale by J. BRECK & CO., No. 52 North Market st. April 21

DURHAM COW FOR SALE.

A young full blooded Durham Cow and her calf—a very desirable animal in every particular. Apply to EDWARD TITCOMB, Jr., Newburyport. May 5

HOWARD'S IMPROVED EASY DRAUGHT PLOUGH.

Great improvements have been made the past year in the form and workmanship of these Ploughs; the mould board has been so formed as to *lay the furrow completely over turning in every particle of grass or stubble, and leaving the ground in the best possible manner.* The length of the mould board has been very much increased, so that the Plough works with the greatest ease, both with respect to the holding and the team. The Committee at the late trial of Ploughs at Worcester, say,

"Should our opinion be asked as to which of the Ploughs we should prefer for use on a farm, we might perhaps say to the inquirer, if your land is mostly light and easy to work, try Prouty & Mears, but if your *land is heavy, hard or rocky,* BEGIN WITH MR. HOWARD'S."

At the above mentioned trial the Howard Plough *did more work, with the same power of team, than any other plough exhibited.* No other turned more than twentyseven and one half inches, to the 112 lbs. draught, while the *Howard Plough turned twentynine and one half inches, to the same power of team!* All acknowledge that Howard's Ploughs are much the strongest and most substantially made.

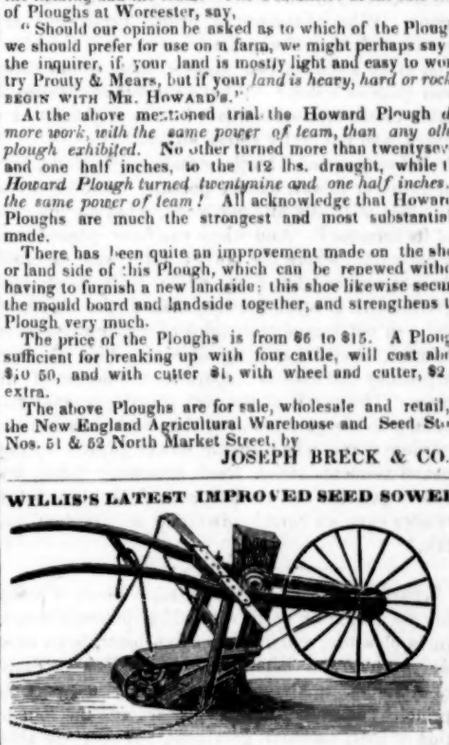
There has been quite an improvement made on the shoe, or land side of this Plough, which can be renewed without having to furnish a new landside: this shoe likewise secures the mould board and landside together, and strengthens the Plough very much.

The price of the Ploughs is from $6 to $15. A Plough, sufficient for breaking up with four cattle, will cost about $10 50, and with cutter $1, with wheel and cutter, $2 50 extra.

The above Ploughs are for sale, wholesale and retail, at the New England Agricultural Warehouse and Seed Store, Nos. 51 & 52 North Market Street, by

JOSEPH BRECK & CO.

WILLIS'S LATEST IMPROVED SEED SOWER.



Willis's latest Improved Seed Sower, invented the last season; one of the most perfect machines ever introduced for the purpose. In using this machine, the farmer may be certain that his seed is put into the ground, and at the same time in the best possible manner. There has been a great difficulty in machines for sowing garden seeds; they are very apt to clog up and the farmer might go over an acre of land and not sow a single seed; but not so with this; it is so constructed that it cannot possibly clog. In using this sower, the farmer can save one half of his seed, and do the work at less than one quarter the expense of the common way of sowing seeds, and have it done in a much better manner; it opens the furrow, drops the seed, and covers it over and rolls them down. It will sow almost any kind of Garden Seeds; say Ruta Baga, Mangel Wurtzel, Turnips, Carrots, Beets, Parsnips, Onions. It is highly recommended by a great number of persons who used it the past season. For sale at the N. E. Agricultural Warehouse and Seed Store by JOSEPH BRECK & CO.

March 31.

DRAFT AND TRACE CHAINS.

Just received by Packet Coromanda,
400 pair Trace Chains, suitable for Ploughing.
200 " Truck and leading Chains.
200 " Draft Chains. For sale by J. BRECK & CO., No. 52 North Market st. April 21

DOUBLE DAHLIAS.

We have for sale a very large collection of the *finest* Double Dahlias, of the most esteemed sorts. J. BRECK & CO., No. 52, North Market St. April 28

SWEET POTATO SLIPS.

Just received and for sale by J. BRECK & CO, a supply of Sweet Potato Slips. No 52, North Market st.

April 28.

MISCELLANEOUS.

Cultivate Flowers.—A beautiful woman never looks so beautiful as when with her cheeks flushing with exercise, and her eyes sparkling with cheerfulness, with her "cape bonnet" on, and a hoe or a dibble in her hand, she is busily engaged in working in her garden. It is a healthy employment, and exhibits besides, evidences of refinement and taste. To those who are disposed to treat our opinion on this matter with contempt, we would recommend a perusal of the following extract from an exchange paper:—*Ports. Jour.*

"What is the use of flowers?" exclaims a thrifty housekeeper, meanwhile busily polishing her fire-irons. What is the use of bright fire-irons? say we in reply: or of any fire-irons at all? Could not you make a fire on two stones, that would keep you quite as warm? What's the use of handsome table-cloths and bed-spreads? one might eat on a board, and not really starve either.

When you see a house standing all alone, bare of shrub or flower, except perhaps some volunteer bunches of thistle and pig-weed, what do you infer of its inmates? And when you have passed even a log-cabin, where the sweet brier was carefully trained around the door, while veils of morning glories and of scarlet beans, shaded the windows, did you not immediately think of the dwellers there, as neat, cheerful and agreeable? This is more especially the case in regard to the homes of the poor. The credit of the rich man's grounds may belong to his gardener, but they who can keep no gardener, and whose simple flower garden springs out of moments stolen from necessary labor, possess a genuine and cordial love of the beautiful, to render even an humble dwelling so fragrant and fair.

American Love of Occupation.—There is probably no people on earth with whom business constitutes pleasure, and industry amusement, in an equal degree with the inhabitants of the United States of America. Active occupation is not only the principal source of their happiness and the foundation of their national greatness, but they are absolutely wretched without it, and instead of the "*dolce far niente*," know but horrors of idleness. Business is the very soul of an American: he pursues it not merely as a means of procuring for himself and his family the necessary comforts of life, but as the fountain of all human felicity. From the earliest hour in the morning until late at night, the streets are thronged by men of all trades and professions, each following his vocation like a *perpetum mobile*, as if he never dreamed of a cessation from labor or the possibility of becoming fatigued. Neither is this hurry of business confined to the large cities; it communicates itself to every village and hamlet, and extends to and penetrates the western forests. It is as if all America were but one gigantic workshop, over the entrance of which there is the blazing inscription, "*No admittance here except on business.*"—*English writer.*

An Alarm at Sea.—The captain of one of our down-east schooners found himself one day becalmed in a fog off the Isle of Shoals, near Portsmouth, N. H. The vessel lay with a slight motion, when the captain, with the quick ear of a seaman, discovered, by the cracking sound of cordage, that there was another vessel close upon him. He had neither gun no trumpet to give his neighbor warning of their close approach; and the best thing he could think of was to set his men drumming on some empty casks; but to no purpose, as the sound increased, and the vessel was nearing him. As a last effort of ingenuity, he seized a handspike, and applying it to the ear of an old grunter that happened to be on board, gave it several turns, none of the easiest, which brought forth a squeal almost as loud as the big whistle of our locomotive engines. This signal was effectual; and just before coming in sight of his neighbor craft, bows on, he heard her captain exclaim to the man at the helm, in a voice of thunder, "Starboard your helm, blast your eyes—starboard your helm! we're close upon a hog-yard!"—*Anon.*

Wellerisms are getting out of fashion, but we occasionally meet with a good one. Here are a few that are not bad:

"Rather pointed, and I feel it deeply," as the hog said to the butcher-knife.

"This is *net* gain," as the lean spider said to the fat fly.

"Teeth inserted here," as the bull dog said when he bit.

—

"I'm a *crying evil*," as Wilson said when announcing that a horse had been stolen.

"If you have tears, prepare to shed them now," as the onion said to the cook.

"Let me *reflect*," as the mirror said to the Miss.

"I'm gaining *strength*," as the butter said to the housewife.

"I'm *cutting a swell*," as the steamboat said to the "*Capting*."

"O *solitude!* where are thy charms?" as the *one idea* in the "soaplock's" noddle said.

"We are kindred spirits," as the ass said to the dandy.

"*Sweet* are the uses of adversity," as the loafer said when he crawled into a newly-emptied '*lasses* hogshead for "lodgings."

[Those eight last belong to us: if encouraged, we will try again. There's a good deal of inherent genius in us, which but for our excessive *modesty!* would make us a conspicuous character among the *literati* of the day!!—N. E. F.'s "P. D."]

TO THE PUBLIC.

DR. CHARLES M. WOOD, *Veterinary Surgeon*, respectfully informs his friends and the public, that he has removed from Blossom St., to 69 Carver St. All orders left at his house, or at the stable of Wm. Forbes, No. 7 Sudbury St., will be promptly attended to, and gratefully acknowledged. All diseases of Horses, Cattle or Swine, are attended to. Also, castrating and spaying.

For the information of those who may have occasion for his services, and are unacquainted with his practice, he is politely permitted to refer to the following gentlemen who have employed him for a number of years past.

Wm. Forbes,	Williams & Pearson,
Wm. J. Niles.	Geo. Meacham,
Joshua Seward,	S. K. Bayley,
J. B. Read,	L. Maynard,
James F. Fullham,	Isaac Foster,
Wm. P. Loring,	Artemas White,
Joseph C. Pray.	Brown & Sevrence.

Boston, April 28.

TYE UP CHAINS.

Just received by Packet Coromanda, 500 Chains for tyeing up Cattle.

These chains, introduced by E. H. Derby, Esq. of Salem, and Col. Jacques, for the purpose of securing cattle to the stall, are found to be the safest and most convenient mode of fastening cows and oxen to the stanchion.

For sale by J. BRECK & CO., No. 52 North Market st.

GARDEN SEEDS,

For sale by Joseph Breck & Co. at the New England Farmer Office, *No.* 51 and 52 *North Market St. Boston.* The subscribers would inform the public that they have now on hand the largest collection of seeds ever before offered by sale in this city, embracing every variety of *Field, Kitchen, Garden,* and *Ornamental* Flower Seeds desirable for this or any other Climate.

Our seeds are either raised under our own inspection or imported from responsible houses in Europe, and having taken extraordinary pains to obtain such as are pure and genuine, we can confidently recommend them to our customers and friends, and feel assured they will prove satisfactory to all who try them.

Dealers in seeds are requested to forward their orders in season. Boxes for retailing from 8 dolls. and upwards will be sent out on commission allowing a liberal discount and take back what remain unsold.

Letters and orders with good reference will meet with prompt attention.

FIELD SEEDS.

Sugar Beet.	Ruta Baga.
Mangel Wurtzel.	Ballatine's New Royal do.
New Red Globe do. } superior	White Tankard Turnip.
Yellow do. } varieties.	Red do.
Carrot Long Orange.	Red Round do.
" Altringham.	White do.
" New White, extra fine.	White Globe do.
Pumpkin, sorts.	Green Round do.
Wheat—various sorts.	Purple Top Hybrid do.
Barley, do.	Buckwheat.
Rye, do.	Broom Corn.
Potatoes, do.	Millet.
Indian Corn, do.	Buckthorn. } for Hedges.
Oats, do.	Locust. }

GARDEN SEEDS.

Artichoke, Asparagus, Beans of every description, Beets of sorts, Borecole, Broccoli, Brussels Sprouts, Culiflower, Caraway, Celery, of the most improved sorts, Cabbage 20 sorts, Carrot, all the varieties, Cucumber do, Cress, Egg Plant, Endive, Indian Corn, Kale, Leek, Lettuce in great variety, Melons, do. Martynea, Mustard, Nasturtium, Okra, Onion of sorts, Pepper do. Pumpkin do. Parsnip, Parsley, Peas, a very great variety, Rhubarb for tarts, Radish of sorts, Salsify, Squash of sorts, Tomato, Turnip 20 varieties.

SWEET AND POT HERBS.

Thyme.	Sweet Basil.
Sweet Marjorum.	Lavender.
Sage.	Lemon Balm.
Summersavory.	Anise.

Medicinal Herbs, &c.

ORNAMENTAL FLOWER SEEDS.

Three hundred varieties, embracing all the finest sorts. Packages of 20 fine sorts for one dollar.

Those who prefer to have their Seeds put up in papers ready for retail, can be accommodated—each packet neatly closed and labelled with printed directions. Price 50 cents, per dozen papers, which are retailed here at 6 1-4 cents each.

Fruit and ornamental trees, of the greatest variety, supplied at nurseryman's prices, and orders solicited. These will be packed, when required, to go to any part of the U. States. JOSEPH BRECK & CO.

FOR SALE.

GEORGE THE THIRD, who has been honored with the Second and First State premiums in 1839, at Worcester, and at Concord in 1840, by the Committees appointed by the State, for awarding such premiums, is of Durham Breed, was imported as most superior stock, and is thought by judges to possess more valuable points, than any to be found in any other animal of the kind.

Also, two young Bulls, Sired by the above, their Dams are imported and of the best possible blood.

For further information apply to CHARLES WILLARD 2d, Still River Village, Harvard. 4w June 2

GRINDSTONES.

An extensive assortment of Water and Hand Grindstones constantly on hand and for sale by AMMI C. LOMBARD & CO. 13 Lewis's Wharf. 1sly. Nov. 17.

NEW ENGLAND FARMER.

A WEEKLY PAPER.

The Editorial department of this paper having come into the hands of the subscriber, he is now authorized by the publishers to inform the public that the price of the paper is reduced. In future the terms will be $2 per year *in advance*, or $2 50 if not paid within thirty days. ALLEN PUTNAM.

N. B.—Postmasters are required by law to frank all subscriptions and remittances for newspapers, without expense to subscribers.